

Regulatory Unit

Monthly Performance Report

January 2000

**Office of Safety
Regulation of the
TWRS
Privatization
Contractor**

Richland Operations
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EXECUTIVE OVERVIEW

EXECUTIVE SUMMARY

The Regulatory Unit continues to work with BNFL to resolve three significant issues prior to proceeding with Part B-2: authorization basis (AB) maintenance, dose assessment methodology, and adherence to procedures.

The establishment of an effective process for maintaining the TWRS-P authorization basis continues to be a significant unresolved regulatory issue. BNFL has responded to RU inspection findings regarding the authorization basis maintenance process in a letter dated January 25. Also, authorization basis maintenance issues were discussed in a meeting held January 27 between the RU and BNFL. The RU has determined that currently proposed corrective actions are not adequate and have not been timely. The RU has requested that BNFL provide a revised response to the relevant RU inspection findings by February 24, 2000 and has scheduled a meeting with BNFL management on March 1, 2000 to discuss the revised response. The RU will decide if additional RU action is warranted following the March 1 meeting.

The RU continues to work with BNFL to correct deficiencies in the dose assessment methodology. The proposed methodology submitted by BNFL in October 1999 was missing necessary detail that would not become known until the Construction Authorization Request (CAR) was submitted. A working level meeting was held between the RU and BNFL to further discuss deficiencies in the BNFL dose assessment methodology. Additional efforts are underway by BNFL to correct the noted deficiencies and document the dose assessment methodology so an acceptable CAR can be submitted. It is anticipated that this issue will be resolved in late February.

Nearly all of the eleven design phase RU inspections of BNFL have identified procedure compliance problems. To address this concern, BNFL established a team to determine the root cause of this problem. The results were presented to the RU management team during a workshop session. Based on the briefing, BNFL has identified an adequate approach to addressing the issue. BNFL's success in addressing the problem will depend on the effectiveness of its implementation of the proposed actions.

MONTHLY HIGHLIGHTS

Inspections

The RU performed an inspection of BNFL's design process, and identified three Findings. The Findings included failure of the QA organization to adequately overview design document output, four examples of failure to follow procedures, and failure to have procedures or otherwise take actions to address Inspectability/Testability considerations during design reviews.

Development of construction inspection procedures is underway with seven of the forty procedures required for the Limited Construction Authorization/Construction Authorization completed. Three procedures are being developed for inspection of Industrial Hygiene and Safety.

Design Reviews

The Regulatory Unit observed seven senior manager multi-discipline design reviews. These reviews were conducted to obtain senior level management input prior to freezing the design for cost estimation for the Contract Part B-2 fixed price proposal. The reviewers assessed whether the design complies with Contract requirements, complies with the Functional Specification, and has adequate safety provisions. The reviewers also assessed whether the design is adequate for the Dangerous Waste Permit Application, establishing a fixed-price, proceeding into Contract B-2 and for quantifying risks. The specific design reviews covered are:

- Pretreatment Process/Mechanical /Heating Ventilation and Air Conditioning (HVAC)/General Arrangement
- Balance of Facility (BOF) – Site Plot Plan and Services
- High-Level Waste (HLW) Process/Mechanical/HVAC/General Arrangement
- DOE Interfaces
- Sampling and laboratories
- Control Room Layout and Human Factors
- Low-Activity Waste (LAW) Process/Mechanical/HVAC/General Arrangement/Civil, Structural, and Architectural (CSA) /Control Electrical and Instrumentation (CE&I)

The series of multi-discipline design reviews conducted for BNFL management appeared effective in covering key features of the design and highlighting issues that require attention prior to providing the cost estimate for Part B-2 of the TWRS-P Contract. Many areas of the design have open issues or lack the design detail necessary to provide a price with reasonable contingency and the level of detail necessary to support the Construction Authorization Request. Design progress is needed to complete the design confirmation stage with an integrated design that has undergone hazard analysis, accident analysis, and conforms to standards selected to implement the selected control strategies.

Integrated Safety Management Reviews (ISM Cycle II)

The RU continued observation of the BNFL Integrated Safety Management (ISM) Cycle 2 activities. The RU observed a hazard identification meeting for Pretreatment system 700 (HVAC) and control strategy selection meetings for the following:

- Pretreatment systems 130 (LAW Melter Feed Evaporation)
- 210 (HLW Receipt)
- 220 (HLW Sludge Pretreatment)
- 230 (LAW Entrained Solids and Sr/TRU Removal)

The product of these reviews will be input for the Hazards Analysis Report and the Safety Requirements Document that BNFL plans to submit for RU approval on July 11 and August 16, 2000, respectively.

The RU also performed a BNFL ISM process assessment that was generally directed at evaluating BNFL's process against industry-standard ISM methodologies and conformance with the BNFL ISM design guide. Several hazard identification meetings (Pretreatment Systems 540 and 700) and control strategy selection meetings (Pretreatment Systems 210 and 310/320) were attended as part of the assessment. The assessment results were generally positive. The RU provided BNFL feedback regarding sensitivity of the Safety Leads to

the group dynamics exhibited by the ISM teams; the benefits from chemical engineering-chemical process specialist participation; and the need to ensure thorough assessment of hazards and hazardous situation for design modifications to process systems.

Quality Assurance Program and Implementation Plan (QAPIP)

The RU approved changes to the BNFL QAPIP Revision 4 that were submitted on October 12, 1999, as an annual revision. BNFL previously submitted two revisions that were either rejected by the RU or withdrawn by BNFL due to problems with the submittals. BNFL plans to provide the RU with a revision to the QAPIP in May of 2000 that will establish the QA requirements for construction activities.

Additionally, in the BNFL-RU workshop, senior BNFL management acknowledged weaknesses in the QA Program and presented some of the actions planned to correct the weaknesses.

Interface Plan

The RU issued Revision 1 of the Interface Plan. This plan characterizes the interfaces among the various parties to the TWRS-P Contract that are significant to the RU. This facilitates effective coordination of authorization and inspection activities among the RU and other operational, regulatory, and oversight organizations. Revision 1 of the Interface Plan captured significant organizational changes, including reorganization of the TWRS programmatic activities into the Office of River Protection (ORP). Revision 1 also incorporated changes made to the physical interfaces between BNFL, ORP, and the Site Contractor during Part B-1 of the BNFL Contract.

Activity Report

The RU issued the tri-annual activity report for the period September 1, 1999 through December 31, 1999. As part of the RU commitment to openness, the report is issued every four months and provides an update on key regulatory activities and issues, as well as a look-ahead at significant events.

Review Guidance

BNFL comments have been received and incorporated in the Standards Approval Package, Limited Construction Authorization Request, and CAR Review guidance. All review guidance necessary for the regulatory submittals supporting construction approval have been issued to BNFL. RU selection of review team disciplines and personnel is ongoing.

Topical Meeting

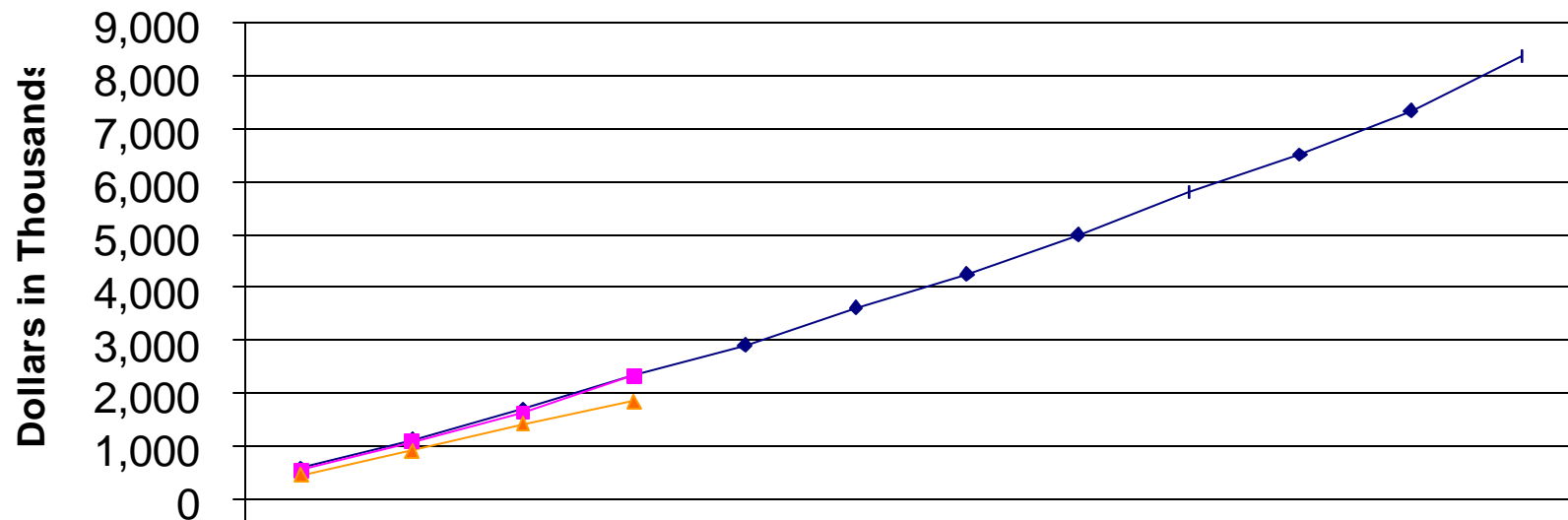
A Topical Meeting was held on January 25, 2000, to discuss how BNFL would incorporate Risk Objectives into the vitrification facility design and how hardware reliability data from Sellafield would be used at Hanford. Risk Objectives are defined in general terms in DOE/RL-96-0006, "Top-level Radiological, Nuclear, and Process Safety Standards and Principles for TWRS Privatization Contractors." As part of the Topical Meeting, BNFL described how the Risk Objectives would be assessed and implemented into the design

process.

The Sellafield Reliability Data Base discussion concluded that equipment and system reliability projections (to meet risk objectives and safety goals) would be based on U.S. and international data bases in addition to specialized equipment reliability data from Sellafield. Discussions to resolve details associated with both topics are continuing between BNFL and the RU, but there appears to be agreement in principle and both topics appear on track for resolution prior to submission of the construction authorization request.

COST PERFORMANCE (Graph)

Regulatory Unit Cost Performance



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
◆ BCWS	585	1,131	1,694	2,333	2,912	3,616	4,243	4,992	5,802	6,505	7,340	8,370
■ BCWP	543	1,084	1,635	2,333								
▲ ACWP	460	912	1,422	1,850								
SV	(42)	(47)	(59)	0								
CV	83	172	213	483								

COST PERFORMANCE SUMMARY

The fiscal year-to-date cost through January indicates a favorable cost variance of \$483K. This underrun is due primarily to savings associated with the observation of Design Reviews, development of Review Guidance, CAR Preparation activities, writing of Policies and Practices, and Topical Issue resolution. All activities are currently performing on schedule.

The favorable cost variance is being reprogrammed to under-funded RU reviews of BNFL deliverables scheduled for the third and fourth quarters of FY 2000.

NEAR-TERM LOOK AHEAD

Planned Due Date

February

- Conduct Employee Concerns Inspection 2-07-00
- Issue Revised CAR, LCA and SAP Guidance 2-08-00
- Issue Design Process Inspection Report 2-08-00
- Participate in RU/BNFL interface workshop 2-09-00
- Present Thirteenth Quarterly RU Report 2-17-00
- Conduct Topical Meeting on Electrical System 2-29-00

March

- Conduct Authorization Basis Corrective Action Meeting 3-01-00
- Conduct Training & Qualification Inspection 3-06-00
- Issue Employee Concerns Program Inspection Report 3-13-00
- Issue QAPIP Review Handbook 3-17-00
- Conduct Topical Meeting on LAW/HLW Melter Design & Safety Issues 3-21-00
- Issue Non-Radiological Safety & Health Review Handbook 3-24-00

April

- Issue Training & Qualification Inspection Report 4-07-00
- Conduct Corrective Actions Inspection 4-10-00
- Issue IH&S Regulatory Plan 4-14-00
- Commence Review of BNFL QA Program Implementation Plan
for Construction 4-24-00
- Conduct Topical Meeting on Chemical Hazards 4-25-00

PROGRAM PERFORMANCE OVERVIEW

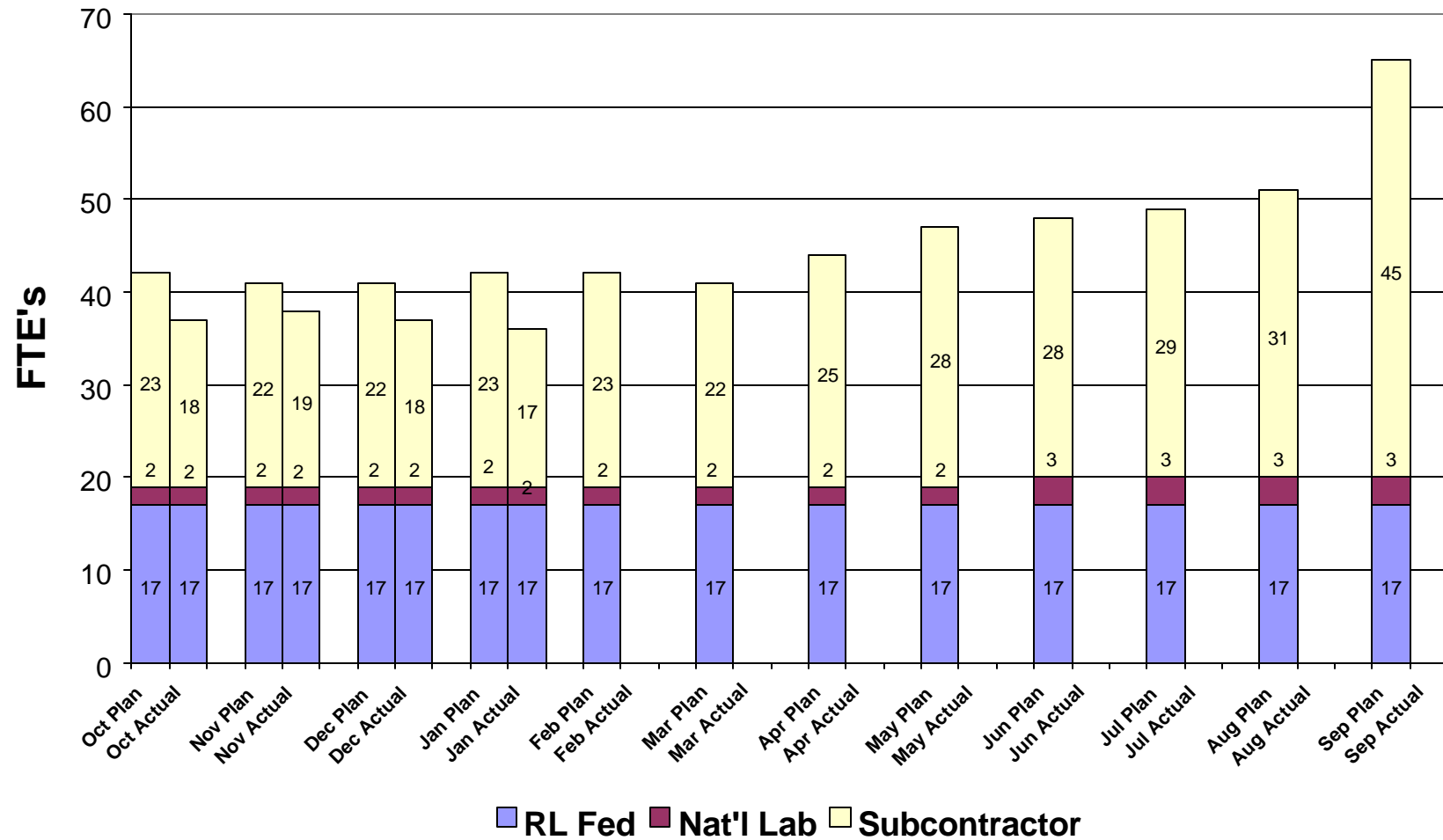
PERFORMANCE SUMMARY (Chart) – Program Direction and Program Support

		STATUS thru November					FY 2000		
		BCWS	BCWP	ACWP	SV	CV	BAC	EAC	Delta
RU1	Program Management								
	Program Direction	446	446	387	0	59	1,360	1,360	0
	Program Support	579	579	520	0	59	1,933	1,933	0
	Total RU1	1,025	1,025	907	0	118	3,293	3,293	0
RU2	Regulatory Policy & Practices								
	Program Direction	38	38	36	0	2	80	80	0
	Program Support	122	122	56	0	66	376	376	0
	Total RU2	160	160	92	0	68	456	456	0
RU5	Recurring Safety Reviews								
	Program Direction	138	138	147	0	(9)	427	427	0
	Program Support	524	524	369	0	155	1,613	1,613	0
	Total RU5	662	662	516	0	146	2,040	2,040	0
RU6	Construction Authorization								
	Program Direction	35	35	35	0	0	301	301	0
	Program Support	132	132	42	0	90	1,179	1,179	0
	Total RU6	167	167	77	0	90	1,480	1,480	0
RU9	Oversight & Inspections								
	Program Direction	126	126	78	0	48	400	400	0
	Program Support	189	189	162	0	27	596	596	0
	Total RU9	315	315	240	0	75	996	996	0
RU10	Special Projects								
	Program Direction	2	2	7	0	(5)	2	2	0
	Program Support	2	2	11	0	(9)	103	103	0
	Total RU10	4	4	18	0	(14)	105	105	0
Total Regulatory Unit									
	Program Direction	785	785	690	0	95	2,570	2,570	0
	Program Support	1,548	1,548	1,160	0	388	5,800	5,800	0
	Total RU	2,333	2,333	1,850	0	483	8,370	8,370	0

MILESTONE CONTROL LOG

MILESTONE CONTROL LOG							
MILESTONE		WBS	MILESTONE DESCRIPTION	BASELINE COMPLETION DATE	SCHEDULE STATUS	FORECAST COMPLETION DATE	ACTUAL COMPLETION DATE
TYPE	NUMBER						
<u>FISCAL YEAR 2000</u>							
RL	00-010	RU902	Standards Selection Inspection rpt issued	10/12/99	Complete	10/06/99	10/06/99
RL	00-011	RU902	Authorization Basis Inspection rpt issued	11/08/99	Complete	12/13/99	12/13/99
RL	00-012	RU902	Safety Integration Inspection rpt issued	12/07/99	Complete	12/03/99	12/03/99
FO	00-013	RU203	IH&S Plan issued	12/30/99	Behind	4/07/00	
FO	00-015	RU205	Revised Interface Plan issued	1/31/00	Complete	1/31/00	1/28/00
RL	00-016	RU902	Design Process Inspection rpt issued	2/14/00	Complete	2/14/00	2/08/00
RL	00-017	RU902	Employee Concerns Program Inspection rpt issued	3/13/00	On Schedule	3/13/00	
RL	00-018	RU902	Training & Qualifications Inspection rpt issued	4/07/00	On Schedule	4/07/00	
RL	00-019	RU608	SAP Rvw Handbook issued	5/12/00	On Schedule	5/12/00	
RL	00-027	RU608	Initiate Review of SAP	5/16/00	On Schedule	5/16/00	
RL	00-020	RU605	LCA Rvw Handbook issued	5/17/00	On Schedule	5/17/00	
FO	00-004	RU502	ER & Approval of QAPIP Rev. 6 issued	6/09/00	On Schedule	6/09/00	
RL	00-014	RU902	Standards Implementation Inspection rpt issued	6/19/00	On Schedule	6/19/00	
RL	00-026	RU605	Initiate Review of LCA Request	6/26/00	On Schedule	6/26/00	
FO	00-002	RU204	Openness Plan Rev. 3 issued	6/30/00	On Schedule	6/30/00	
RL	00-021	RU902	QA Inspection rpt issued	7/17/00	On Schedule	7/17/00	
RL	00-022	RU602	CAR Rvw Handbook issued	7/21/00	On Schedule	7/21/00	
FO	00-023	RU502	Approval of RPP Rev. #3 issued	7/28/00	On Schedule	7/28/00	
RL	00-024	RU902	Corrective Actions Inspection rpt issued	8/11/00	On Schedule	8/11/00	
RL	00-025	RU902	ALARA Inspection rpt issued	9/11/00	On Schedule	9/11/00	

<i>MILESTONE CONTROL LOG</i>							
<i>MILESTONE</i>		<i>WBS</i>	<i>MILESTONE DESCRIPTION</i>	<i>BASELINE COMPLETION DATE</i>	<i>SCHEDULE STATUS</i>	<i>FORECAST COMPLETION DATE</i>	<i>ACTUAL COMPLETION DATE</i>
<i>TYPE</i>	<i>NUMBER</i>						
FO	00-003	RU102	FY 2001 PMP issued	9/29/00	On Schedule	9/29/00	

FULL-TIME EQUIVALENCY PROFILE (Graph)**Regulatory Unit FTE Profile**

CHANGE CONTROL STATUS LOG

<i>Regulatory Unit FY 2000 Change Control Log</i>							
CIN#	Change Classified.	Author	WBS#	Date Change Originated	Change Request Explanation	CEB Review Date	CEB Disposition
00-001	I	K.D. Grindstaff	1.10	11/99	Processing of the FY 1999 Carryover into FY 2000 Baseline and Realignment of FY 2000 Cost Savings to Emergent Priority Workscope.	11/24/99	Approved
00-002	II	K.D. Grindstaff	1.10	12/99	Added new emergent workscope associated with impact risk balancing between TWRS and the TWRS-P facility.	12/03/99	Approved
00-003	III	K.D. Grindstaff	1.10	1/99	Redistributed funds associated with a task package titled Other Direct Cost (0424ODC).	01/18/00	Approved
00-004	II	K.D. Grindstaff	1.10	1/99	Renamed Cost Account RU1002 from K Basin SAR to Misc. RU Reg. Activities and separated the CAP into three tasks; K Basin SAR, RL Quality Assurance Program Plan, and WIPP Reg. Program Development.	01/20/00	Approved